

Applicant: Steven Jeffrey Goldberg
Application No.: 10/656,495

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A wireless communication system for transmitting and receiving wireless communications using at least one beam comprising:

a plurality of wireless transmit/receive units (WTRUs);

at least one base station having at least one beam forming antenna wherein at least one beam emanating from the beam forming antenna may be dynamically adjusted in at least a vertical dimension; and

a radio network controller (RNC) for controlling the dynamic adjustment of the at least one beam to optimize transmission between the antenna and at least one WTRU.

2. (currently amended) The wireless communication system of claim 1 wherein the beam is further dynamically adjusted in a horizontal dimension.

3. (currently amended) The wireless communication system of claim 1 wherein a Node B is provided for generating control signals for dynamically adjusting the beam in accordance with tilt information provided by the radio network controller.

Applicant: Steven Jeffrey Goldberg
Application No.: 10/656,495

4. (currently amended) The wireless communication system of claim 1 wherein tilt information is sent from the radio network controller to the antenna wherein control signals are generated for dynamically adjusting the beam in accordance with tilt information provided by the radio network controller.
5. (original) The wireless communication system of claim 1 wherein the beam is tilted downward to reduce interference to and from another antenna.
6. (currently amended) The wireless communication system of claim 1 wherein the beam is dynamically adjusted to account for variations in elevation between the WTRUs.
7. (currently amended) The wireless communication system of claim 1 wherein the beam is dynamically adjusted to break up null areas wherein transmission signals are not decodable.
8. (original) The wireless communication system of claim 7 wherein the beam is adjusted by dithering the beam in at least a vertical dimension.
9. (original) The wireless communication system of claim 7 wherein the beam is adjusted by dithering the beam in a vertical and horizontal dimension.
10. (original) The wireless communication system of claim 1 wherein the beam is adjusted to provide multiple signals along multiple paths to increase the data rate at which a receiving WTRU may receive data contained within the signals.

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Application No.: 10/656,495

11. (original) A method for dynamically adjusting beams to optimize transmissions within a wireless communication system comprising:

computing tilt information in real-time based on actual conditions in a wireless communication system; and

adjusting at least one beam in at least a vertical dimension based on the computed tilt information.

12. (original) The method of claim 11 further comprising the step of computing tilt information to adjust the beam to minimize interference to and from another antenna.

13. (original) The method of claim 11 further comprising the step of computing tilt information to adjust the beam to account for variations in elevation between WTRUs.

14. (original) The method of claim 11 further comprising the step of computing tilt information so that the beam is dithered to break up null areas wherein transmission signals are not decodable.

15. (currently amended) A wireless communication system for transmitting and receiving wireless communications using at least one beam comprising:
a plurality of WTRUs;
a radio network controller (RNC);

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Application No.: 10/656,495

at least one base station having at least one beam forming antenna wherein a beam emanating from the beam forming antenna may be dynamically adjusted in at least a vertical dimension; and

a Node B for controlling the dynamic adjustment of the beam to optimize transmission between the antenna and at least one WTRU.

16. (currently amended) The wireless communication system of claim 15 wherein information form from the radio network controller and the plurality of WTRUs is used to compute tilt information for dynamically adjusting the beam.